



Piggery: From environmental pollution to a climate change solution

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Abstract:

Pig farms are a vital component of rural economies in Australia. However, disposal of effluent leads to many environmental problems. This case study of the Berrybank Farm piggery waste management system in Victoria estimates greenhouse gas (GHG) benefits from three different activities. Analysis reveals that the capturing and combusting of methane from piggery effluent could save between 4859 and 5840 tCO₂e yr⁻¹ of GHG emissions. Similarly, using methane for replacing fuels for electricity generation could save another 800 tCO₂e yr⁻¹ of GHGs. Likewise, by utilizing the biogas wastes to replace inorganic fertilizers there could be a further saving of 1193 to 1375 tCO₂e yr⁻¹ of GHG, depending on the type of fertilizers the waste replaces. Therefore, a well-managed piggery farm with 15,000 pigs could save 6,852 to 8,015 tCO₂e yr⁻¹, which equates to the carbon sequestered from 6,800 to 8,000 spotted gum trees (ageEuro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)35 year) in their above plus below-ground biomass. Implementation of similar project in suitable areas in Australia could have significant environmental and financial benefits.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Food/Water Security, Unspecified Exposure

Food/Water Quality: Biotoxin/Algal Bloom, Pathogen

Food/Water Security: Livestock Productivity

Geographic Feature:

resource focuses on specific type of geography

Rural

Geographic Location:

resource focuses on specific location

Non-United States

Climate Change and Human Health Literature Portal

Non-United States: Australasia

Health Co-Benefit/Co-Harm (Adaption/Mitigation): 

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

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Health Impact: 

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation: 

mitigation or adaptation strategy is a focus of resource

Mitigation

Resource Type: 

format or standard characteristic of resource

Research Article

Timescale: 

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

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